

Lazzaro Spallanzani's 1767 experiment - Modified

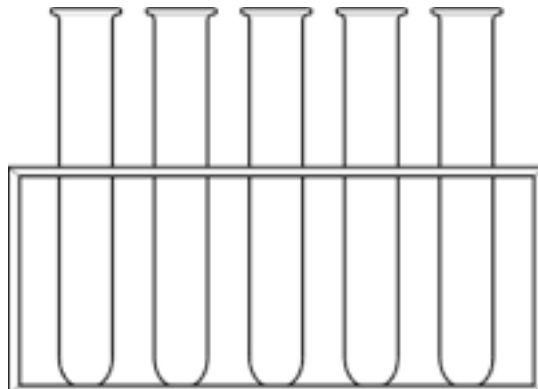
Name: _____ Date: _____

Chair Role: _____ Section: _____

Hypothesis: Germs, then called *infusorial animalcules*, present in air cause fermentation and putrefaction.

Materials: Nutrient broth solution, 2 Test Tubes, Masking Tape, Test Tube holder

1. Obtain a cup of nutrient broth solution. The broth should be a clear, golden color and not cloudy.
2. Label two test tubes "A" and "B." Pour 20 mL of nutrient broth into each of the test tubes.
3. Place the test tubes into the hot water bath. Place plugs at an angle in the mouth of the test tubes. Wait 15 minutes.
(Note: Spallanzani boiled a larger volume of broth for 45 minutes and fused the glass necks of the vials.)
4. After 15 minutes, remove the test tubes from the hot water bath and insert the plug into test tube "A." Remove the foam plug from the top of test tube "B."
5. Wait patiently until the broth in one of the test tubes becomes cloudy.
6. Record the date and initial condition of the nutrient broth in the test tubes on the first day. Predict what will happen over a period of time.
7. Record the date and daily observations of each test tube.
8. Analyze data and communicate results.



	Test Tube A	Test Tube B
Day 1		
Day 2		

1) Compare and contrast the two test tubes on Day 1 and then again on Day 2.

Day 1

Day 2

2) Where did the bacteria growth originate in Test Tube B? Give evidence to support your claim.

3) Which test tube was the control and which was the experimental variable? How did you know?

4) How do you think this experiment compares to the one that Pasteur did? Which do you think is more accurate? Give evidence to support your claim.